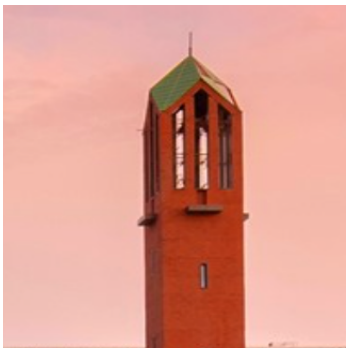
Deep Learning Project 2025 Spring

Introduction

In this project, you are required to do a classification task on 6 types of objects related to Guangzhou International Campus, SCUT. You are required to create your own dataset then train a model based on the data. Finally, you should submit your models to obtain a result on the test set kept by TA. The object types include,

1.Bell tower



2.Library

3. School logo

4. Liyujun mascot

5. Mingcheng mascot

6. Junde mascot

Task

Use all the methods and tricks, including **you learned in the lectures or from other resources**, to train your own model with your own dataset. You should follow the following requirements.

1. **This project is a team-work**. You should find a group with a maximum of 3 students and work together.
2. **You should create your own dataset based on the examples**. The examples of the test set are released and you should create your own dataset referring to the examples by taking photos or collecting images from the Internet. **Do not use the released examples in the training**!
3. **You should submit your model and test file to TA then obtain a test result.** The test set will be kept by the TA in order to avoid possible cheating by directly training the model on the test set. **You should submit a test script with your model to TA then the TA can test your result.** The template of the test script is released with the data examples and you have **3 chances** to submit the model. The data in the test set will be similar to the given examples and please validate your test script on the examples first.
4. **A project report within 5 pages and an oral presentation with slides should be completed**. The report and slides should be in **English** and you should write the report with the template. Your oral presentation can be delivered in **Chinese**. Also, you should declare the contribution of each member in the group.
5. **Grading Metric**. The project accounts for 60% of the total grade and the grading will consider the following 5 parts.
    - **Performance (20%).** The performance will be evaluated not only by the test accuracy but also the model efficiency and contents in the presentation/report.
    - **Workload (20%).** The individual workload of students in the course project will be assessed based on the report and presentation, including attempts with different algorithms, data managements, analysis of various algorithms, and others.
    - **Novelty (20%).** The innovation of the algorithms will be evaluated whether only common existing methods were used or whether innovative approaches were attempted (the results do not need to be highly effective, as long as they are reasonable)
    - **Presentation (20%).** Presentation skills (including PPT and oral presentation) will be assessed. Clarity, standardization, and the quality of presentation materials will be focused.

- **Report (20%)**. The course project report is a key component of the final project, aiming to evaluate the groups' mastery of the course knowledge as well as their ability to present the project effectively

Submission

Please submit the **codes, model, test script, report, and presentation slides** to ******@mail.scut.edu.cn (named 本科-课程名-队伍名-课程设计). You should submit the test script and model to TA in advance to obtain a test result. The oral presentation will be **scheduled in June** and the exact time and location will be determined later. and the location will be released quite soon. All the materials should be submitted before **23:59, June 18th (Week 17).**

Tips:

1. *The training and hyperparameter tuning of a model are time-consuming, it is recommended to begin the project in advanced.*
2. *Please do not tune the parameters blindly. You can seek existing experiences for hyper-parameters to save time. You can also search for some advanced methods. Sometimes, using a better technique can be effective than tedious parameter tuning.*
3. *If you have any questions, please contact the TA.*